# Appendix B: Electronic Information System Evaluation Checklist

Effective Date: 06/24/21 Document No.: APP-A15-OPC-006.01

#### Instructions:

- This checklist outlines the requirements for an electronic system. This checklist or an equivalent document that contains all the elements from this document on 21 CFR 11 Compliance Risk Assessment must be completed for each electronic system used in the conduct of NIAID DAIDS Network studies conducted within the HIV/AIDS Clinical Trials Networks, unless otherwise specified in a formal agreement. Electronic systems that fall under the scope of this checklist include systems from which clinical trial data may be submitted to the FDA, EMA or any other regulatory authorities.
- The checklist should be completed by the entity that owns/implements the system. The checklist must be completed for any new electronic system and for all subsequent software release versions of the system.
- When completing this checklist information should be entered in each field that contains blue text prompts and each Yes or No checkbox should be clicked as appropriate to answer each question. Comments may also be entered to provide additional information for mitigation of risk.
- EIS Policy Checklist should be submitted to <u>DAIDSCRSSEISChecklist.sm@ppdi.com</u>. Please submit only one Checklist at a time in a single email. When submitting the Checklist, the subject line of the email should include the CRS number (if applicable) and electronic system name, if known.

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### Points to consider when completing this checklist:

We recommend that the IT Personnel completing this checklist work with the CRS Leader, or Investigators of Record or Site PI as applicable to determine the applicability of the electronic system.

1. Does the electronic system collect, manage, store, or generate data that will be submitted to any regulatory authority or be used to reconstruct the clinical trial?

#### **Examples**:

- a. Will the data be submitted as part of required periodic (e.g. annual) study reports?
- b. Will the data be part of the end of study reports?
- c. Will the data be part of a final clinical study report (CSR)?
  - 2. Would the records, data, or documents (e.g., essential documents, electronic signatures) in the system be required to reconstruct the trial?

(See most recent version of ICH E6 for examples of essential documents)

If the answer to any of the questions above is 'yes', then you must complete this checklist for that electronic system.

Date of submission	
Site Number (if applicable):	
Site/Organization Name:	
Contact Name:	
Contact Phone:	
Contact Email Address:	

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Name of Electronic Syste	em being Assessed:		
	System Ris	sk Assessment	
System Version #:			
Briefly describe the <b>purpose</b> of the system:			
Briefly describe the process surrounding the use of the system: _			
System Acquisition Information:			Software Acquisition:  ☐ Purchased Software (run locally)  ☐ In-House Software/Other ☐ Software as a Service (SaaS)
System Contact Person			Date of Implementation:
Other Information:			

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# **Electronic Records Requirements**

Secti	Section 1.0 Validation			
1.1	Has this system been COTS validated by your office?	☐ Yes ☐ No ☐ N/A		
1.2	Has the vendor validated the system?	☐ Yes ☐ No ☐ N/A		
1.3	If the vendor has validated the system, can they provide you with a validation certificate or a similar documentation?	□ Yes □ No □ N/A		
1.4	If the vendor has validated the system, will they make the validation information available, if required, during a regulatory inspection?	☐ Yes ☐ No ☐ N/A		
Possible Risk Mitigations and Corrective and Preventive Action (CAPA):  If any of the answers above are "No" then you should consider what mitigations of this risk are possible. You should consider some type of documented testing with objective evidence to prove at a minimum the functions you are using to support the clinical study are working accurately and consistently.  Additional Risk Mitigations:				
Section	on 2.0 Access and Controls			
2.1	Is the system able to produce an accurate and complete copy of the records on paper?	□ Yes □ No □ N/A		
2.2	Is the system able to provide the information in an electronic format (e.g. Excel file, .csv, .xml or similar data extract)?	☐ Yes ☐ No ☐ N/A		
2.3	Do you have access to equipment necessary to place the electronic data on an encrypted universal serial bus (USB) drive or other media if required by the regulatory authority?	□ Yes □ No □ N/A		
<b>Possible Risk Mitigations and Corrective and Preventive Action (CAPA):</b> If any of the answers above are "No" then you should consider what mitigations of this risk are possible.				
Addit	Additional Risk Mitigations:			

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Sec	IOII 2.0 Access and Controls	
Section	1 3.0 Protection of Records (applicable for locally installed and web-based systems)	
3.1	Are the data readily retrievable through the retention period?	☐ Yes ☐ No ☐ N/A
3.2	Are the data backed up to an alternate media on a regular basis and maintained in a separate location (e.g. alternate clinical site, another location, cloud storage, etc.) for disaster recovery purposes?	□ Yes □ No □ N/A
3.3	Are the data protected using a firewall?	☐ Yes ☐ No ☐ N/A
3.4	Is the system set up to prevent, detect and mitigate the effects of viruses, malware, and other harmful software?	☐ Yes ☐ No ☐ N/A
Possib	le Risk Mitigations and Corrective and Preventive Action (CAPA):	
If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Consider when/if keeping paper records might be necessary if systems are not adequately protected. Add a strong virus protection software to the computer system if possible. Ensure information is available to reconstruct source documentation for regulatory inspection and be prepared to describe how data was obtained and managed to prove the integrity of the data. Document changes made to any systems and carefully evaluate the effects of those changes.		
Additio	onal Risk Mitigations:	
Sectio	n 4.0 Access to Records	
4.1	Is access to the system limited to only authorized individuals?	□ Yes □ No □ N/A
4.2	Are requests for access approved and documented?	□ Yes □ No □ N/A

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Section 4	.u Access to Records	
4.3	Is access removed promptly upon the departure of an internal employee or upon notification of staff departures from external entities/users?	☐ Yes ☐ No ☐ N/A
4.4	Are individual accounts password protected?	☐ Yes ☐ No ☐ N/A
4.5	Does the system limit the number of failed login attempts?	☐ Yes ☐ No ☐ N/A
Possible Risk Mitigations and Corrective and Preventive Action (CAPA):  If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Implementing a procedure that is followed to onboard or offboard and employee is one way to mitigate risks regarding control of access. A procedure to train individuals on protecting their accounts is also recommended to include: 1. Do not share individual account access with other users, 2. Do not log on to a system to provide access for another user, 3. Require users to change passwords at regular intervals, 4. Automatically lock computers when left idle for a short period of time		
Additional Risk Mitigations:  Section 5.0 Audit Trails		
	See the system have an avalitation in the least two leaf all records incomed along	

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☐ Yes ☐ No ☐ N/A

☐ Yes ☐ No

☐ Yes ☐ No

Does the audit trail keep track of the individual user who made the change?

**Section 5.0 Audit Trails** 

5.6

6.3

6.4

on records?

5.7	Does the system require entry of a reason for making the change?	□ Yes □ No □ N/A	
5.8	Is the audit trail protected from any individual modifying it or deleting it?	□ Yes □ No □ N/A	
5.9	Is it possible to discern invalid or altered records?	□ Yes □ No □ N/A	
5.10	Is the audit trail available for review throughout the record's retention period?	□ Yes □ No □ N/A	
Possible Risk Mitigations and Corrective and Preventive Action (CAPA):  If any of the answers above are "No" then you should consider what mitigations of this risk are possible. For an audit trail to be compliant it must meet all the above criteria. Consider a change log with needed details if components of the above audit trail requirements are missing.			
Additional Risk Mitigations:			
Section 6.0 Operational Checks			
6.1	Is the computer system date and time synchronized to an international standard set source?	tting Yes No	
6.2	Does the system limit a user's ability to change date or time?	☐ Yes ☐ No	
<i>C</i> 2	Does the system include year, month, day, hour, minute, and time zone in time star	nps □ yes □ No	

Does the system have checks to ensure steps are performed in the correct order if the

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Section 6.0 Operational Checks			
	sequence of system steps or events is important?		
6.5	Does the system contain prompts or other features to promote consistent use of terminology?	☐ Yes ☐ No	
6.6	Does the system contain checks to identify invalid values and alert the user?	☐ Yes ☐ No	
6.7	Does the system prevent default data entries or automatic duplication of data (unless programmed to do so)?	☐ Yes ☐ No	
Possik	ole Risk Mitigations and Corrective and Preventive Action (CAPA):		
If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Procedures to ensure users know the order of tasks can help mitigate risks regarding this requirement. Consideration may also be given to documenting all date and time changes made to the computer including when changes are made for daylight savings time. Also consider documenting time zone references and naming conventions in the study documentation.			
Additional Risk Mitigations:			
Section	n 7.0 Authority Checks		
7.1	Does the system ensure that only authorized individuals can use it, electronically sign records, alter records, or perform other operations as required?	☐ Yes ☐ No	
7.2	Does the system prompt for an individual's login account and password to prevent unauthorized users from accessing data?	☐ Yes ☐ No	
Possible Risk Mitigations and Corrective and Preventive Action (CAPA):			
If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Consider maintaining a cumulative record of authorized personnel, their titles, and a description of their access privilege. Consider maintaining a change log if the system does not utilize individual logins.			
Additional Risk Mitigations:			

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Section	on 7.0 Authority Checks		
Section	on 8.0 Device Checks		
8.1	Does the system track which device or piece of equipment (e.g. vital sign, ECG, etc.) was used to capture the data? This applies only when more than one device is available for use.	□ No □ N/A	
Possil	ble Risk Mitigations and Corrective and Preventive Action (CAPA):		
	of the answers above are "No" then you should consider what mitigations of this risk are poder recording this information in a comment on the record or some type of log.	ossible.	
Additional Risk Mitigations:			
Section	on 9.0 Training		
9.1	Do users of the system have sufficient education, training, and experience to perform the system tasks?	☐ Yes ☐ No	
9.2	Is this training documented?	☐ Yes ☐ No	
Possible Risk Mitigations and Corrective and Preventive Action (CAPA):			
If any of the answers above are "No" then you should consider what mitigations of this risk are possible.  Provide training on the operation and use of the system and document that the training occurred. Conduct training sessions as needed to ensure new personnel are adequately trained as they come on board.			
Addit	Additional Risk Mitigations:		

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Section	on 9.0 Training	
Section	71 7.0 11 annung	
Section	on 10.0 Policies	
10.1	Is there a written policy for internal systems that ensures individuals are held fully accountable and responsible for actions initiated under their electronic signatures?	☐ Yes ☐ No
Possik	ole Risk Mitigations and Corrective and Preventive Action (CAPA):	
If any of the answers above are "No" then you should consider what mitigations of this risk are possible.  Consider writing a policy or adding language to your onboarding documents that must be accepted by the employee.		
Additional Risk Mitigations:		
Section	on 11.0 System Documentation	
11.1	Is the distribution of, access to, and the use of systems operation and maintenance documentation controlled?	☐ Yes ☐ No
11.2	Are there procedures established to maintain an audit trail that documents version/change control sequenced development and modification of the system?	☐ Yes ☐ No
Possible Risk Mitigations and Corrective and Preventive Action (CAPA):		
If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Ensure documentation contains a revision history to identify changes made and keep copies of all published versions of the documentation.		
Addit	ional Risk Mitigations:	

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Section	n 12.0 Controls for Open Systems			
12.1	Are the data (at rest) encrypted on the storage device?	☐ Yes ☐ No☐ N/A		
12.2	Are the data (in motion) encrypted throughout the process of managing and/or transmitting the data?	☐ Yes ☐ No ☐ N/A		
Possik	ole Risk Mitigations and Corrective and Preventive Action (CAPA):			
If any	of the answers above are "No" then you should consider what mitigations of this risk	are possible.		
Additional Risk Mitigations:				
	Electronic Signature Requirements			
	<b>Instructions</b> : If the system does NOT use electronic signatures, check the No box this entire section and proceed to the section requiring review signatures for this	•		
Syste	System does not use electronic signatures   No			
Section	on 13.0 Electronic Signature Components			
13.1	Does the signed electronic records contain the printed name of the signer?	☐ Yes ☐ No		
13.2	Does the signed electronic record contain the date and time of the signing (preferal with time zone)?	oly □ Yes □ No		
13.3	Does the signed electronic record contain the meaning of the signature that was applied (i.e. approval, review, etc.)?	☐ Yes ☐ No		
Possible Risk Mitigations and Corrective and Preventive Action (CAPA):				
If any of the answers above are "No" then you should consider what mitigations of this risk are possible.				
Additional Risk Mitigations:				

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Section	Section 14.0 Signature as Electronic Record			
14.1	Is the electronic signature and all three (3) of its components (printed name of signate and time of signing and meaning of signature) available for viewing when the electronic record is shown in human readable format (i.e. on an electronic display screen or on a report)?		□ Yes □ No	
Possik	ole Risk Mitigations and Corrective and Preventive Action (CAPA):			
If any	of the answers above are "No" then you should consider what mitigations of this ris	sk are po	ssible.	
Addit	ional Risk Mitigations:			
Section 15.0 Electronic Signature Linking				
15.1	Are the electronic signatures linked to its respective electronic record to ensure that the signature cannot be removed, copied, cut and pasted, or transferred by ordinary means in order to falsify an alternate electronic record?	☐ Yes ☐ No		
15.2	Are handwritten signatures applied to electronic records linked in a manner that ensures that the signature cannot be removed, copied, or transferred to falsify an alternate electronic record?	☐ Yes	□ No □ N/A	
Possik	ole Risk Mitigations and Corrective and Preventive Action (CAPA):	1		
If any	of the answers above are "No" then you should consider what mitigations of this ris	sk are po	ssible.	
Additi	ional Risk Mitigations:			
Section 16.0 Electronic Signature Uniqueness				
16.1	Are electronic signatures unique to an individual?		□ Yes □ No	

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Section	n 16.0 Electronic Signature Uniqueness		
16.2	Are you ensuring that an electronic signature is never reused by or reassigned to anyone else?	☐ Yes ☐ No	
Possik	ole Risk Mitigations and Corrective and Preventive Action (CAPA):		
If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Establish a user account management policy or procedure to ensure user identifications (IDs) are not reused and consider including that if a person is rehired that they should receive the same user ID assigned previously to ensure an individual does not have more than one electronic signature representation.			
Addit	onal Risk Mitigations:		
Section 17.0 Identity Verification			
17.1	Are you verifying the identity of the individual before providing them the ability to sign electronically?	□ Yes □ No	
Possik	Possible Risk Mitigations and Corrective and Preventive Action (CAPA):		
If any of the answers above are "No" then you should consider what mitigations of this risk are possible.  Establish a process for verifying identity and include this process in the account management policy/procedure.			
Additional Risk Mitigations:			

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Section 18.0 Electronic Signature Certification				
11.100 (c) Persons using electronic signatures shall, prior to or at the time of such use, certify to the agency that the electronic signatures in their system, used on or after August 20, 1997, are intended to be the legally binding equivalent of traditional handwritten signatures.				
(1) the Of	The certification shall be submitted in paper form and signed with a traditional hafice of Regional Operations (HFC-100), 5601 Fishers Lane, Rockville, Maryland (MD)	<del>-</del>		
(2) testim signat	Persons using electronic signatures shall, upon agency request, provide additional certification or mony that a specific electronic signature is the legally binding equivalent of the signer's handwritten ture.			
18.1	Have you submitted plans in writing to use electronic signature to the FDA, EMA or any other regulatory authority?	☐ Yes ☐ No ☐ N/A		

Section 19.0 Electronic Signature Components				
19.1	Does the signature require the use of at least two components (i.e. a user ID and password or an ID card and pin number)?	☐ Yes ☐ No		
19.2	Does the system prompt for a re-entry of the password or pin upon each application of the electronic signature?	□ Yes □ No		
19.3	Does the system prompt for both components when the signing is not performed during a single, continuous period of controlled system access?	☐ Yes ☐ No		
19.4	Are electronic signatures only used by their genuine owners (applicable to sites)?	☐ Yes ☐ No ☐ N/A		
19.5	Are electronic signatures administered and executed in a way that requires collaboration of at least two individuals if an attempt is made to falsify a signature?	□ Yes □ No		

#### Possible Risk Mitigations and Corrective and Preventive Action (CAPA):

If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Consider a policy that assures user IDs and passwords are not shared and that users properly log out upon completion of their work particularly if they are using shared workstations.

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Section 19.0 Electronic Signature Components				
Additional Risk Mitigations:				
Section 20.0 Biometric Electronic Signatures				
20.1	Can it be shown that biometric electronic signatures can only be used by their genuine owners?	☐ Yes ☐ No☐ N/A		
Possible Risk Mitigations and Corrective and Preventive Action (CAPA):				
If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Ensure any biometric that may be used (i.e. fingerprints, retinal scans, etc.) are truly unique to the individual.				
Additional Risk Mitigations:				
Section	n 21.0 Electronic Signature Management			
21.1	Are controls in place to maintain the uniqueness of the user ID and password so that no individual can have the same combination?	□ Yes □ No		
21.2	Are passwords required to be reset as some set periodic interval?	☐ Yes ☐ No		
21.3	Are processes in place to deactivate lost, stolen, missing or otherwise compromised tokens, cards, that are used for electronic signature purposes?	☐ Yes ☐ No ☐ N/A		
21.4	Is there a process to ensure the recalling of IDs, tokens, cards, etc. if a person leaves employment or is transferred to a different job role?	☐ Yes ☐ No ☐ N/A		
21.5	Does the system have safeguards to prevent unauthorized use of passwords	☐ Yes ☐ No		

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#### **Section 21.0 Electronic Signature Management**

#### Possible Risk Mitigations and Corrective and Preventive Action (CAPA):

If any of the answers above are "No" then you should consider what mitigations of this risk are possible. Consider an account management policy or procedure that applies specific rules for assigning user IDs, requires password resets if they cannot be forced by the system, assures users log out when leaving their workstation unattended. Provide a means for personnel to report lost, stolen or missing tokens or devices and consider how to manage these items including the revoking of the token's validity. Include controls to assure the person is identified before providing the user with a password reset or temporary device. A process for collecting the tokens, devices, etc. from personnel when they depart from employment. Consider also including periodic review of all user IDs, tokens, etc. to ensure they are still needed, still have appropriate access and still function properly. Consider including in a policy the requirement for reporting immediately to management any unauthorized use of user IDs, passwords, tokens, devices, etc.

**Additional Risk Mitigations:** 

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### **Review Acknowledgement**

Jection 22.0 Assessor Acknowledgement					
By signing this document, you indicate that the information contained within this document is accurate and complete to the best of your knowledge.					
<name> <title>&lt;/td&gt;&lt;td&gt;Signature:&lt;/td&gt;&lt;td&gt;Date:&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td colspan=7&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td colspan=6&gt;Section 23.0 CRS Leader or DMC Director (as applicable)&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td colspan=5&gt;By signing this document, you indicate that you have reviewed and approve the information contained within this document.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;Name&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;Title&gt;&lt;/td&gt;&lt;td&gt;Signature:&lt;/td&gt;&lt;td&gt;Date:&lt;/td&gt;&lt;/tr&gt;&lt;/tbody&gt;&lt;/table&gt;</title></name>					

#### **REVISION HISTORY**

Section 22 0 Assessor Acknowledgement

- 1. APP-A15-OPC-006.00 is the original version of this Appendix.
- 2. APP-A15-OPC-006.01 was revised to include the following minor changes
  - a. Removed version #.# from footer
  - b. Clarified the scope in # 1 and 2 within the 'Points to consider when completing this checklist' on Page 1'
  - c. Added ICH E6 instructions to 'Points to consider when completing this checklist' on Page 1
  - d. Added the fields: 'Date of submission' and 'Organization Name' to the beginning of the checklist.